

REMARKS

Claims 1-4 and 6-10 are pending.

As recited in independent claim 1, the present invention relates to a positive resist composition. The resist composition includes (A) a fluorine atom-containing resin and (B) a sulfonium salt compound. The fluorine atom-containing resin (A) includes at least one group that increases the solubility of the resin in an alkali developer by the action of an acid. The sulfonium salt compound (B) is represented by general formula (A) shown in claim 1, and this compound generates an acid upon irradiation with actinic rays or radiation.

In Paragraph No. 2 of the Action, claims 1-10 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Aoi et al. (EP 1243968).

The Examiner states that Aoi et al. disclose a positive resist composition comprising: (A) a resin capable of decomposing by the action of an acid to increase the solubility in an alkali developer; and (B) a compound capable of generating an acid upon irradiation with one of an actinic ray and a radiation, wherein the resin (A) contains a specified repeating unit having the structure of formula (I) which allegedly meets the present claim limitations. Additionally, the Examiner says, the resist composition comprises a sulfonium photoacid generator meeting the structural limitations of the present formula (A), a nitrogen-containing basic compound, a dissolution inhibitor, and an F or Si-containing surfactant.

Per the Examiner, the description of the basic formula for the sulfonium salt of Aoi et al. teaches that the three constituent groups are preferably alkyl or an aryl substituted by alkoxy, hydroxyl, mercapto, or an alkyl group. The Examiner states that many of the exemplified

compounds comprise three aryl groups, and there are some that include a combination of aryl substituted with hydroxyl, alkoxy, and alkyl groups. The Examiner says to see compounds 4-11 to 4-16 of Aoi et al.

The Examiner reasons that it would have been obvious to prepare the material of Aoi et al. "given the teaching of the sulfonium salt of the reference, replace one aryl group of the tri aryl sulfonium salt with another exemplified aryl substituted with a hydroxyl group, and/or other groups with reasonable expectation of achieving a material capable of forming fine patterns."

Applicants submit that this rejection should be reconsidered and withdrawn because Aoi et al EP '968 does not disclose or render obvious the positive resist composition of the present invention.

Specifically, Aoi et al. EP '968 does not contain any disclosure of a sulfonium salt compound of formula (A) in claim 1, contrary to what the Examiner states. While EP '968 does disclose several sulfonium salt compounds having a triphenyl sulfonium cation moiety, see specifically compounds PAG4-1 through PAG4-7 at pages 26-27 of EP '968, none of these compounds have a hydroxyl group on one of the phenyl rings. Further, there is nothing in EP '968 which would suggest modifying the compounds of EP '968 just discussed to have a hydroxyl group.

Further, EP '968 does not in the working examples use any sulfonium salt compound which has a cation moiety containing a hydroxyl group, let alone a cation moiety which satisfies present formula (A). Rather, the working examples employ a nonaflate salt of triphenyl sulfonium (PAG4-3) shown at page 26 of EP '968.

The Examiner asserts that it would have been obvious to prepare the material of Aoai using one of the disclosed tri-aryl sulfonium salts, and to replace one aryl group of the salt with another exemplified aryl group substituted with a hydroxyl group, and/or other groups with a reasonable expectation of achieving a material capable of forming fine patterns. However, Applicants respectfully disagree with the Examiner's position. The general formula pointed to by the Examiner is formula (PAG4) in Paragraph [0057] at page 21 of EP '968. The description of this formula in Paragraph [0059] of Aoai et al. '968 shows that this formula represents a very broad genus of compounds, which does not fairly teach or suggest the specific compounds employed in the present invention. Further, Applicants do not believe there is anything in EP '968 which would motivate a person of ordinary skill in the art to employ a hydroxyl group on one of the aryl groups of a triphenyl sulfonium salt. The only salts which are substituted with a hydroxyl group in EP '968 are not triphenyl sulfonium salts. See compounds (PAG4-10) - (PAG4-16) cited by the Examiner. If anything, the disclosure of hydroxyl group substituents only on compounds other than triphenylsulfonium salts would tend to lead a person of ordinary skill away from employing a hydroxyl group as a substituent on a triphenyl sulfonium salt.

Still further, the triphenylsulfonium salt PAG4-3 shown at page 26 of Aoai et al and used in the working Examples of Aoai et al (see, e.g., Example 1 at Paragraph [0096] of Aoai et al), is used in the Comparative Example of the present invention. See Comparative Example 1 at the bottom of Table 1 at page 81 of the present specification, where PAG-A was employed as the acid generator. As shown in the last line on page 81, PAG-A is triphenylsulfonium nonafluorobutanesulfonate, which is same compound as PAG4-3 of Aoai et al. Accordingly,

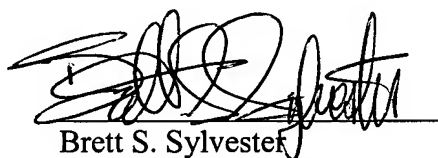
RESPONSE UNDER 37 C.F.R. § 1.116
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from this viewpoint also, the present invention and Aoai et al are different and distinguished from each other, and therefore the present invention is not obvious from the disclosure or teachings of Aoai et al.

In view of the above, Applicants respectfully submit that the rejection of claims 1-4 and 6-10 based on Aoai et al EP '968 should be reconsidered and withdrawn.

Allowance is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brett S. Sylvester", is written over a horizontal line.

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Date: December 20, 2005